DEPARTMENT OF PUBLIC WORKS & HIGHWAYS

TERMS OF REFERENCE

Consulting Services for the Pre-Feasibility Study of NRJ Valencia-Macasing-Malagalad-Canibongan-Siriac-NRJ Gunyan Diversion Road, Zamboanga del Sur

1 INTRODUCTION

The proposed project involves the barangays of Valencia, Macasing, Malagalad, Canibongan, and Siriac, located within the municipality of Dumingag. Dumingag is a 2nd class landlocked municipality in the province of Zamboanga del Sur, encompassing a total land area of 297.75 square kilometers, which constitutes 6.64% of the total landmass of Zamboanga del Sur. According to the 2020 Census, Dumingag has a population of 48,881, representing 4.65% of the total population of the province and 1.26% of the inhabitants of the Zamboanga Peninsula.

Additionally, Gunyan is a barangay in the municipality of Siayan, Zamboanga del Norte. The 2020 Census recorded the population of Gunyan at 2,039, accounting for 5.63% of total population of Siayan.

Dumingag is accessible via the Jct. Bagong Valencia - Gunyan Road and can also be reached from the north through the Mahayag - Dumingag - Siayan Road and the Eastern Bobongan - Sominot - Midsalip - Dumingag Road.

The proposed 177.815-hectare road alignment by the Zamboanga del Sur 1st DEO, initially estimated to cost 966 million pesos, allocating 18.2 million of its budget to the conduct of the Feasibility study. The aim of this road construction project is to reduce travel time, enhance connectivity, and stimulate economic growth, thereby benefiting residents and promoting regional development.

2 OBJECTIVES

The main objective of the proposal under this TOR is to determine the viability of the proposed road considering the technical, economic, social, and environmental aspects, among others. Additionally, this Pre-Feasibility Study (F/S) shall ensure that value engineering/value analysis (VE/VA) is undertaken with regards to the selection of the best structural configuration. This is to ensure that the best scheme for providing the project's intended outputs will be selected that would yield the highest value-for-money (VfM).

By the end of the consulting period, the Consultant is expected to produce a comprehensive Pre-F/S based on updated information with a definite implementation plan of the recommended scheme based on the alternatives/configurations considered. Specifically, it aims to achieve the following undertakings:

2.1 Produce an in-depth socio-economic profile of the study area, integrating among others the data population growth, spatial distribution, land use patterns and urban structures, and economic activities;

2.2 Determine the Annual Average Daily Traffic (AADT) in major and abutting road sections relevant to the project influence area, and assess the existing and future condition of the relevant road network based on capacity and safety measurements such as Level of Service and other network performance parameters or factors;

2.3 Establish trip patterns based on zones[A zone is an area, especially one that has different characteristics from the ones around it or is used for different purposes. (Cambridge Dictionary)] and/or existing and future land use in the study area and identify volume distribution in major and abutting road sections during peak and non-peak hours;

2.4 Establish Traffic Growth Rates (TGR) based on ecological factors such as population distribution, average income per family and product consumption per capita;

2.5 Develop an updated travel time-based vehicle operating cost (VOC) and running cost based on transportation related expenditures such as productivity cost, fares, vehicle (or any part of) acquisition cost, fuel cost, etc.;

2.6 Identify possible geological hazards and recommend structural and non-structural measures to reduce the effects of these hazards;

2.7 Produce a complete plan and profile of the project site that compliments the existing terrain;

2.8 Determine the possible significant impacts of the project to the environment and provide appropriate mitigating measures to address these impacts;

2.9 Identify the potential project affected persons/families with the estimated cost for right-of-way acquisition and proposed timetable;

2.10 Estimate the quantities and cost of each component of the project.

2.11 Determine the viability of the project based on technical and economic merits and recommend to the government the best possible alignment/ structural configuration in consideration of the construction cost, impact on the environment, social safeguard and other relevant factors such as on-going and proposed projects of other private and government agencies.

3 SCOPE OF CONSULTING SERVICES

From its initial budget of 18.2 million for the feasibility study of the proposed road alignment, in 2024, the allocated budget was significantly reduced to 1 million pesos. As a result of this budget cut, the scope of works of the Consultant under this TOR shall only include the topographical survey of the 11.56-hectare section of the proposed bypass road alignment. The topographical survey will establish the overall viability of the investment

in coordination/consultation with beneficiaries and other stakeholders as necessary. The consulting services shall include the following major activities:

A. TOPOGRAPHICAL SURVEY (payment of the first 50% from the total project cost)

1. Undertake preliminary topographical survey along the selected alignment. The Consultant shall set out and establish reference points at appropriate locations as key control points of the survey. These points shall be used as benchmarks for identification and use during the subsequent engineering surveys. The levelling shall be tied to the existing government benchmarks in the area. ("Geo-tagging");
2. Conduct profiling with cross-sections taken at fifty (50) meters interval, unless local conditions require cross-section at closer intervals so as to provide the necessary details for earthwork, quantity calculations with an accuracy of twenty percent (20%) of the final quantities. Profiles and cross-sections shall be determined plus one hundred (100) meters beyond construction limits;
3. Prepare topographic maps with contours at 50-meter interval and coordinates and vicinity plan. All survey plans shall be prepared on reproducible materials of high quality;
4. River/creek profile and river/creek cross sections shall be surveyed for 250 meters each upstream and downstream sides from the centerline of the bridge. Cross-sections shall be measured at 50-meter interval;
5. Conduct preliminary inventory for potential road slope disasters in the road section under study. The road slope disasters in the road shall be determined and classified according to the categories identified in the JICA Manual on the Study on Risk Management for Sediment-Related Disaster: soil slope collapse, rock slope collapse, landslide, road slip, debris flow, river erosion and coastal erosion; and
6. Use any advanced technology/methodology related to the activity (i.e. LiDar) if necessary, provided that implementation of the survey and data processing will be faster, safer and more efficient. The Consultant shall prepare the necessary data inputs and comprehensively provide all the information required in processing the data to clearly illustrate the output needed to evaluate the project.

4 IMPLEMENTATION

A. STAFFING

The Consultants shall be composed of qualified staff with skill and experience necessary to undertake the range of task set out in these Terms of Reference. These key personnel shall be supported by adequate technical and administrative staff.

The above-mentioned key staff should have appropriate educational degree, relevant trainings and adequate years of experience in detailed engineering design of bridge/flyover projects.

B. REPORT REQUIREMENTS AND DELIVERABLES

The Consultant shall submit:

Monthly Progress Reports (1 copy) to be submitted monthly before the 25th day of each month, which is reckoned as the cut-off date for the reporting month. The Monthly Progress Report shall present the work progress, problems encountered, counter-measures taken and anticipated services for the next period of services.

Draft of the Road Cross-sections, Plans, and Profile (payment of the final 50% from the total project cost; 2 copies) shall also be submitted at the end of the services period, giving a summary of the whole program of work carried out during the period of services.

5 STUDY SCHEDULE

The Study shall be completed within a period of two (2) months, commencing from the date of receipt of the Notice to Proceed (NTP).

6 HUMAN RESOURCE/ STAFF REQUIREMENT

The Consultants shall be composed of qualified staff with experience in the conduct of data gathering for infrastructure feasibility studies including preliminary design, traffic, social, and environmental impact assessment.

KEY STAFF	WEEK															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Project Manager/ Transport Planner																
2. Senior Highway Engineer																
3. Traffic Engineer																
4. Bridge/Structural Engineer																
5. Cost/Quantity/ Specifications Engineer																
6. Geodetic Engineer																
7. General Economist																
8. Environmental																

Specialist																
9. Sociologist/ Specialist	RAP															
10. CAD Operator																

The Consultant shall provide the following key staff and the job description and required qualifications are prescribed below:

Position	Job Description	No. of Months
1. Project Manager/ Transport Planner	Act as the team leader for the study team and ensure timely and quality delivery of the work specified in this Terms of Reference.	
2. Senior Highway Engineer	Perform preliminary engineering design of project roads which includes pavement design and slope protection facilities, and prepare operation plan.	
3. Traffic Engineer	Responsible for traffic analysis, traffic forecasting, traffic growth analysis, transport route planning, intermodal transport analysis, ports and railways.	
4. Bridge / Structural Engineer	Responsible for technical specifications for flyovers, viaducts, interchanges and bridges.	
5. Cost/ Quantity/ Specifications Engineer	Responsible for developing preliminary civil works construction plan and obtaining bill of quantities for all types of project costs	
6. Geodetic Engineer	Undertake topographic survey and provide the necessary topographic maps in aide of the preliminary design of alignment(s).	1.0
7. General Economist	Responsible for conducting economic surveys and analysis called in for the Feasibility Study and the implementation program.	
8. Environmental Specialist	Responsible for the development of an environmental framework	
9. Sociologist/ RAP Specialist	Responsible for the development of road right of way strip planning.	

10. CAD Operator	Responsible for drafting road cross-sections, plans, and profile.	1.0

7 INSTITUTIONAL ARRANGEMENT

7.1 Implementing Office (DPWH Zamboanga del Sur 1st District Engineering Office)

7.1.1 Disburse the fund for the conduct of the F/S once the contract is executed;

7.1.2 Implement and manage the contract, including ensuring the quality of output, the monitoring and evaluation of the progress of the study and approval of reports to ensure delivery of outputs as specified in this TOR;

7.1.3 Provide assistance in the coordination with other concerned agencies/entities in the conduct of the study, such as securing the required permits(s) from the Protected Area Management Board (PAMB) - Department of Environment and Natural Resources (DENR) for the conduct of activities and entry into the protected area, among others;

7.1.4 Provide reasonable technical assistance to personnel of the Consultant with respect to incidents related to the conduct of the study;

7.1.5 Provide, upon the request of the Consultant, available information/data and also if available, copies of previous related studies subject to the execution of the Confidentiality and Non-Disclosure Agreement (CNDA), if necessary.

7.2 [1]Planning Service – Central Office

7.2.1 Provide technical assistance to the Implementing Office

7.2.2 Be responsible for contract implementation and management, including ensuring the quality of output, the monitoring and evaluation of the progress of the study and approval of reports to ensure delivery of outputs as specified in this TOR;

7.2.3 Conduct final design and estimates review.

7.3 Consultant

7.3.1 Conduct the study and deliver on time the results/outputs as indicated in this TOR;

7.3.2 Provide the necessary office equipment (i.e., computer, printers, office supplies, etc.) for the conduct of the study. All equipment procured for

[1] Include only if the RO or DEO is the Implementing Office. No need to include if the Central Office is the IO

the development of the project shall be transferred to the Government by the end of the project;

7.3.3 Shoulder all expenses required in the conduct of the study, including travel costs and lodging of detailed Government personnel during field visits, except for their salaries;

7.3.4 Carry out the services with sound engineering theories and practices to ensure that the final works will provide the most economical and feasible development for the study;

7.3.5 Accept full responsibility for the consulting services to be performed under this TOR for which the Consultant is liable to DPWH;

7.3.6 Perform the work in an efficient and diligent manner and shall use its best effort to keep reimbursable costs down to the possible minimum without impairing the quality of services rendered;

7.3.7 Comply with, and strictly observe any laws regarding workmen's health and safety, workmen's welfare, compensation for injuries, minimum wage, hours of labor and other labor laws;

7.3.8 Keep accurate and systematic records and accounts in respect of the services in such form and detail as is customary and sufficient to establish accurately that the costs and expenditures under this TOR have been duly incurred;

7.3.9 Permit the duly authorized representatives of the Government from time to time to inspect its records and accounts as well as to audit the same;

7.3.10 Not allowed to assign nor sub-contract any part of the professional engineering services under this TOR to any person or firm, except with prior written consent. The approval by the Government to the assignment of any part of said services or to the engagement by the Consultant of sub-contractors to perform any part of the same shall not relieve the Consultant of any obligations under this TOR;

7.3.11 During the term of the contract and after its termination, the Consultant and any entity affiliated with the Consultant, as well as any Sub-consultant and any entity affiliated with such Sub-consultant, shall be disqualified from providing goods, works, or consulting services for any project resulting from or closely related to the contract other than the services and any continuation thereof provided there is no current or future conflict;

7.3.12 Prohibit full-time foreign staff during his assignment under this TOR to engage, directly or indirectly, either in his name, or through the Consultant, in any business or professional activities in the Philippines other than the performance of his duties or assignment under this TOR;

7.3.13 Not allowed, at any time, to communicate to any person or entity any information disclosed to them for the purpose of this services, nor shall the Consultant make public any information as to the recommendations formulated in the course of or as a result of the services, except with prior consent;

7.3.14 Agree that nothing contained herein shall be construed as establishing or creating between the Government and the Consultant, the relationship of employer and employee or principal and agent, it being understood that the position of the Consultant and anyone else performing the services is that of an independent contractor;

7.3.15 Hold the Government free from any and all liabilities, suits, actions, demands, or damages arising from death or injuries to persons or properties, or any loss resulting from or caused by said personnel incident to or in connection with the services under this TOR. The Consultant shall agree to indemnify, protect and defend at its own expense the Government and its agents from and against all actions, claims and liabilities arising out of acts done by the Consultant or its staff in the performance of the services, including the use of, or violation of any copyrighted materials, patented invention, article or appliance; an

7.3.16 Provide on-the-job capacity building/technology transfer to the Government's personnel detailed to the project.

8 OWNERSHIP OF THE OUTPUTS/REPORTS/DOCUMENTS

All submitted outputs/reports/documents under this contract, including but not limited to tracings, as-built drawings, estimates, digital information, computer model and data, specifications, investigations and studies completed or partially completed, inspection logs, and photographs, shall be the property of DPWH and the use of these data for other purposes shall require written consent from the Department. Copyrights will be governed by existing laws, rules and regulations.

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